

Work Order ID 152551

Friday, October 28, 2016 10:28:17 AM

152442

152551

U/R

OK of 10/28/16

Item ID: D119-646-141

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, F15 LH & RH

Start Date: 10/28/2016 Start Qty: 1.00

Required Date: 11/4/2016 Req'd Qty: 1.00

Reference:

Accept

N9000040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals: Process Plan: **DAS** 21 9-09

QC:

Date: OCT 28 2016

Tooling:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr Revision Nbr

D3887-043

D

IIN-D119-646

C

100

0.00

1000

DC

Memo

Doc. Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-141

CHG003

N/A

DAS 21 9-09

NOV 1 9 2016

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

Date:

QA Closed: Date:

Work Order update only

QA Closed: _____ Date: _____		Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Suspected Unapproved		Rework Scrap Use-as-is		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____		Step #:		Date:		QTY Effective:		MRB (Q51042) Approval					
Description Work Order Deviation				Disposition		Completed By							
						Lead hand / Supervisor Approval Verification							
						QC / QA Coordinator Approval							
Root Cause				FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong								
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions								
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance								
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect								
Handling/Pre	Training	Grimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing								
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved								
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing								
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish								
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread								
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence								
Past Expiry Date	Manufacturing Process	OTHER:											
Misidentified	Past Due												

Work Order ID 152551

Monday, October 31, 2016 11:43:55 AM

152551

Item ID: D119-646-141
Revision ID: URF 15-560

Accept

N900040100

Setup Start

NS1

Item Name: AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH

Stop

NS2

Start Date: 10/28/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 11/4/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

110

Skidubes

Memo

0.00

1- Bend FWD end of tube using Bender 1 and bend prog D3887 FWD per dwg D3887

2- Cut FWD end of tube as per dwg D3887.

3- Cut AFT end of tube as per dwg D3887.

4- Buff out marks left from bending

5- Drill Aft cap pilot hole using DT8149 ***DO NOT OPEN TO FINISHED SIZE***

6- Cleco DT8149 in position and install drill jig DT _____ drill X-bolt spacer pilot holes using 3/16" drill first side only

7- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

8- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477

9- Drill FWD cap holes using DT8215.

10- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.

11- Drill Tow ring hole using DT10047 locate from fwd saddle hole. Open to finished size.

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

[illegible]

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152551

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 Revision ID: URF 15-560
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 Start Date: 10/28/2016 Start Qty: 1.00
 Required Date: 11/4/2016 Req'd Qty: 1.00
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID Operation Description Set Up/ Run Hours Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

120
 120
 Hand Finish
 Hand Finishing
 Chemical Conversion Coat per OSI005 4.1
 Memo
 12- Drill wearplate holes & open FWD & AFT cap holes per dwg
 13- Crank FWD cap hole as per detail "C"
 14- Deburr
 W/A

121
 121
 OC
 Quality Control
 OC- Inspect Part Finish
 Memo

Setup Start
 NS1
 Stop
 NS2

Run Start
 NR1
 Stop
 NR2

DQA: _____ Date: _____

Date:

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WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework Scrap Use-as-is		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier			
NCR No. _____		Suspected Unapproved		MRB (QS1042) Approval							
Date: _____		Step #: _____		QTY Effective: _____							
Description Work Order Deviation		Disposition		Completed By _____							
				Lead hand / Supervisor Approval Verification _____							
				QC / QA Coordinator Approval _____							
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER: _____											

Work Order ID 152551

Monday, October 31, 2016 11:43:55 AM

152551

Item ID: D119-646-141 Accept *N9000040100* Setup Start *N.S.1*
Revision ID: URF 15-560 *N9000040100* Stop *N.S.2*
Item Name: AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH
Start Date: 10/28/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 11/4/2016 Req'd Qty: 1.00 *1* Customer:

Reference:
Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
122	QC5-Inspect part completeness to step on W/O	0.00							
122	Memo	0.00							
QC									
Quality Control									

130
120
Skidubes
Skidubes

Memo
1-Open crossbolt spacer holes to finished size.
2-Deburr crossbolt spacer holes as per Dwg D3867 and blow out chips from inside the tube

10-16-11-01
18
DAS

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS _____		MIRB (QS1042) Approval _____																																																																																																																																	
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Work Order ID 152551

Monday, October 31, 2016 11:43:55 AM

152551

Item ID: D119-646-141 Accept *N9000040100* Setup Start *NS1*
Revision ID: URF 15-560 *N9000040100* Stop *NS2*
Item Name: AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH
Start Date: 10/28/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 11/4/2016 Req'd Qty: 1.00 *1* Customer:

Reference:
Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140
140
Skidubes
Memo
0.00
1-Bond web in place as per Dwg D3887 & OSI 015.
A/R SikaFlex-291
SikaFlex expire date: _____
Start: _____ Time: _____
Finish: _____ Time: _____
***** (Adhere for 12 hours) *****

11/14

- 2- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.
- 3- Sink crossbolt spacer holes, and prepare tube for welding, deburr.

150
150
QC
Quality Control
OC5- Inspect part completeness in step on W/O
Memo
0.00

1 0 1611-01

11/18

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No.: _____ NCR No.: _____ Date : _____ Step #: _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab		AGAINST DEPARTMENT/PROCESS ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier		Engineering ☐ Quality ☐ Other	
		QTY Effective : _____		MRB (QS1042) Approval			
Description Work Order Deviation				Disposition			
Completed By				Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval				QC / QA Coordinator Approval			

Root Cause				FAULT CATEGORY												
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong											
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions											
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance											
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Work Order ID 152551

Monday, October 31, 2016 11:43:55 AM

152551

Item ID: D119-646-141 Accept *N90N004N100* Setup Start *N.S.1*
 Revision ID: URF 15-560
 Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH Stop *N.S.2*
 Start Date: 10/28/2016 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 11/4/2016 Req'd Qty: 1.00 *1* Customer:

Reference:
 Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							

1RN
 Skidtubes
 Memo 0.00

NOTE: TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD
 GROUND HANDLING FIXTURE, IF FIXTURE FITS WELL THEN
 PROCEED. FIXTURE DT10091.

- 1-Insert crossbolt spacers. Weld as per OSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/R Aluminum Rod M13378C
- 2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole
- 3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.
- 4-Deburr & Scribe batch # on Aft end of tube.

BE 16-10-04
BE 16-11-7014

170 QC5- Inspect part completeness to step on W/O 0.00
 17N
 QC
 Memo 0.00
 Quality Control TEST FIT USING FIXTURE DT10091.

DAS
 38
 NOV 15 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS QTY Effective : _____		MRB (QS1042) Approval	
Date : _____ Step #: _____		Disposition		Completed By			
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Root Cause				FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong								
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Item ID: D119-646-141
Revision ID: URF 15-560

Accept

N900040100

Setup Start

NS1

Item Name: AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH

Stop

NS2

Start Date: 10/28/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 11/4/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept Qty

Reject Qty

Reject Number

Insp. Stamp

180 QC10- Inspect visual per QSK04- ground welds

0.00

1RN

QC

Memo

0.00

Quality Control

NOV 15 2016

190

Pressure Wash per QSK05 4.3

0.00

1QN

HandFinish

Memo

0.00

Hand Finishing

AND REALODINE AS PER PAR09-043

200

White Gross(Ref:4.3.1) per QSK05 4.3-Alum

0.00

2NN

Powdercoat

Memo

0.00

Powder Coating

START TIME:
OVEN TEMPERATURE:
FINISH TIME:

11:30
320
18:00

(X1) 2016/11/16
BEB

1 16-11-16
320

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

QA Closed _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use as is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube Machining ☐ Thermoforming ☐ Large Fab ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering Quality ☐ Other ☐	QTY Effective : _____ Step #: _____ MRB (QS1042) Approval _____
Date : _____		Disposition	
Description Work Order Deviation			
Completed By _____			
Lead hand / Supervisor Approval Verification _____			
QC / QA Coordinator Approval _____			

Root Cause				FAULT CATEGORY																				
Environment	Design	Doc/Data	Equip/Tooling	Handling/Pre	Material	Internal Transport	Tribal Knowledge	LOA	Substation	Past Expiry Date	Misidentified	No Re-verificat on	Operator	Offset/Setup	Supplier	Training	Use for Testing	Poor Information	Rushing	Product Improvement	Process Improvement	Manufacturing Process	Past Due	OTHER : _____
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
												Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐												
												Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐												
												Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ We.d ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐												
												Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Mistread ☐ Turning Sequence ☐												

Work Order ID 152551

Monday, October 31, 2016 11:43:56 AM

152551

Item ID: D119-646-141 Accept *N9000040100* Setup Start *NS1*
Revision ID: URF 15-560 *NS2*
Item Name: A/W119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH Stop
Start Date: 10/28/2016 Start Qty: 1.00 *1*
Required Date: 11/4/2016 Req'd Qty: 1.00 *1*
Cust Item ID:
Customer:

Reference:
Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210	Memo	0.00							
QC									
Quality Control									

220		0.00							
220									
HandFinish									
Memo		0.00							
Hand Finishing									
	1-Install inserts as per Dwg D3887.								

230		0.00							
230									
QC									
Memo		0.00							
Quality Control									
	QC3- Inspect part completeness to step on W/O								

1 φ 16-11-16 378

1 φ 16-11-16 378

1 φ 16-11-16 378

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		MIRB (QS1042) Approval QTY Effective : _____ Step #: _____ Disposition 	
Date : _____		Description Work Order Deviation 		Completed By 			
Date : _____		Lead hand / Supervisor Approval Verification 		QC / QA Coordinator Approval 			

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong						
Design	Operator	Bonding	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER :									

Work Order ID 152551

Monday, October 31, 2016 11:43:56 AM

152551

Item ID: D119-646-141 Accept *N900040100* Setup Start *NS1*
Revision ID: URF 15-560 *N900040100* Stop *NS2*
Item Name: AW119 Replacement Skidbue with Standard Wearplates & Wearpads, Fits LH & RH
Start Date: 10/28/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 11/4/2016 Req'd Qty: 1.00 *1* Customer:

Reference:
Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

240
22AN
Handfinish
Memo 0.00
1-Install wearpads, gaskets and wearplates as per Dwg D3887. Put sikaflex in
insert before installing bolts and washers
A/R Sikaflex-240/-291 M1355732
Sikaflex expire date: 12102

2-assemble o-ring to plug as per dwg D3492 and apply o-ring lube
A/R 55-o-ring lube batch: M135933
3 -Inspect for foreign objects as per OSI 024
RTD 549 M135-49 1864

4 -Install Alt Cap and seal with Sikaflex. Clean excess adhesive.
A/R Sikaflex-240/-291 M135371
Sikaflex expire date: 12102

250
22AN
QC
Quality Control

OC5- Inspect part completeness to step on W/O 0.00
Memo 0.00

38
NOV 17 2016

DQA: _____ Date: _____

QA Closed _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed		Date:		Work Order update only	
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Water Jet ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Finishing ☐ Rec/Store/Packaging ☐ Composite ☐ Supplier ☐	
Date :		Step #:		MIRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Bending ☐ Set-up ☐ Centre Not Concentric ☐ BOM/Route ☐ Cracks ☐ Broken/Damage/Defect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Cuffs ☐ Contamination ☐ Crushing ☐ Countersink ☐ Heat Treat ☐ Cut Too Short ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Marks/Chatter ☐ Drill Holes ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER :					

Work Order ID 152551

Monday, October 31, 2016 11:43:56 AM

152551

Item ID: D119-646-141 Accept *N900040100* Setup Start *NS1*
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH Stop *NS2*
Start Date: 10/28/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 11/4/2016 Req'd Qty: 1.00 *1* Customer:

Reference:
Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
255	Wing Walk as per dwg QSR005 4.4 Batch 111355450								
255	Hand Finish	Memo							
Hand Finishing		0.00							

256	QC5- Inspect part completeness to step on W/O	0.00							
256	QC	Memo							
Quality Control		0.00							

260 Identity as per dwg & Stock Location: _____ 0.00
260
Packaging Memo PFP153193 0.00
Packaging

DAS 68-6 37 27 9-89
NOV 16 2016
NOV 17 2016

DQA: _____ Date: _____

QA Closed _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed		Date:		Work Order update only	
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube Machining ☐ Thermoforming ☐ Large Fab ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	
Date:		Step #:		QTY Effective:	
Description Work Order Deviation		Disposition		MRB (QS042) Approval	
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER:			

Work Order ID 152551

Monday, October 31, 2016 11:43:56 AM

152551

Item ID:	D119-646-141	Accept	*N900040100*	Setup	Start	*NS4*
Revision ID:	URF 15-560			Stop		*NS2*
Item Name:	AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH					
Start Date:	10/28/2016	Start Qty:	1.00	*1*		
Required Date:	11/4/2016	Req'd Qty:	1.00	*1*		
Reference:				Customer:		

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Slup		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC21- Final Inspection - Work Order Release	0.00							
27N									
QC	Memo	0.00							
Quality Control									

DAS 21 NOV 18 2016

DQA: _____ Date: _____

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed.

Date:

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT/PROCESS ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other				Date : _____ Step #: _____		MRB (QS042) Approval	
Description Work Order Deviation				Disposition							
Completed By				Lead hand / Supervisor Approval Verification							
								QC / QA Coordinator Approval			

Picklist Print

Monday, October 31, 2016 11:43:54 AM

Work Order ID: 152551

152551

Parent Item: D119-646-141

D119-646-141

Parent Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH

Start Date: 10/28/2016

Required Date: 11/4/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:JC
12.11.05 (DEOD3887-B-1)(ecm 12-675) DD verJLM IPP REV:C 13.03.20
per chg003 ECN13-534 DD verJLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2500-1-190 Manufactured No 110 Each 29.0000 1 1

D2500-1-190

Extn - 'T' Beam Tube 4"

N/A see 146152442

D2579 Manufactured No

D2579

Crossbolt Spacer

←

D2855-3 Manufactured No

D2855-3

Cap

Location	Loc Qty	Loc Code
FP001	52	
142564	52	

Location	Loc Qty	Loc Code
1G001	105	
123907	1	
141711	104	

240 Each 52.0000 2 2

**

22 10/11/14

D119-646-B41 B.152442 X 1

✓2

8/16/11-03

2

**

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____		Work Order update only	
Work Order: _____ Part No. _____ NCR No. _____		AGAINST DEPARTMENT/PROCESS Skid-tube Machining Thermoforming Large Fab Cross tube Small Fab Finishing Composite Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier Engineering Quality Other	
Date: _____ Step #: _____		MARB (QSI042) Approval	
Description Work Order Deviation		Disposition	
		Completed By	
		Lead hand / Supervisor Approval Verification	
		QC / QA Coordinator Approval	

Root Cause		FAULT CATEGORY											
Environment	No Re-verification	Temperature/Cure	Power Loss/Surge	Positioned Wrong									
Design	Operator	Set-up	Folio/Program	Outside Dimensions									
Doc/Data	Offset/Setup	BOM/Route	Grain	Over/Under tolerance									
Equip/Tooling	Supplier	Broken/Damage/Defect	Weld	Part Incorrect									
Handling/Pre	Training	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing									
Material	Use for Testing	Contamination	Out of Sequence	Part Moved									
Internal Transport	Poor Information	Countersink	Off-set	Drawing									
Tribal Knowledge	Rushing	Cut Too Short	Mislabeled	Finish									
LOA	Product Improvement	Instructions Incomplete/Unclear	Fit/Function	Misread									
Substation	Process Improvement	Dri I Ho es	Misaligned/off center	Turning Sequence									
Past Expiry Date	Manufacturing Process												
Misidentified	Past Due												
		OTHER :											

Picklist Print

Monday, October 31, 2016 11:43:54 AM

Work Order ID: 152551

Parent Item: D119-646-141

Parent Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH

Start Date: 10/28/2016

Required Date: 11/4/2016

152551
D119-646-141

D3492-5 Manufactured No

240 Each

261.0000

Start Qty: 1.00
16

Required Qty: 1.00

D3492-5

Plug

Location
FP001

Loc Qty
261

Loc Code

133396

8

136396

6

138198

2

145446

47

150918

198

240 Each

248.0000

16

16

all 1611114

**

No

Purchased

NAS1611 005
NAS1611-005
O-RING

Location
FP001

Loc Qty
248

Loc Code

m129198

11

m133498

19

m134816

8

m135465

16

m135706

194

240 Each

1,090.000

2

2

all 1611114

**

No

Manufactured

D3672-1
D3672-1
Washer, Phenolic

Location
FG

Loc Qty
10

Loc Code

85222

10

FP001

868

112218

4

134785

364

150074

500

ST049

212

147077

212

**

Monday, October 31, 2016 11:43:54 AM

Shop Packet Print

DQA: _____ Date: _____

QA Closed _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed		Date:		Work Order update only	
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT/PROCESS ☐ Skid tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other	
Date :		Step #:		QTY Effective :	
Description Work Order Deviation		Disposition		MRB (QS1042) Approval	
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause ☐ Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter		OTHER : ☐	
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due		Temperature/Cure ☐ Set up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	
				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	

Picklist Print

Monday, October 31, 2016 11:43:55 AM

Work Order ID: 152551

152551

Parent Item: D119-646-141

D119-646-141

Parent Item Name: AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH

Start Date: 10/28/2016

Required Date: 11/4/2016

D3681-1 Manufactured No

160 Each

93.0000 Start Qty: 1.00 8

Required Qty: 1.00

D3681-1

Spacer

Location

Loc Qty

Loc Code

LG001

145956

151967

93

1

92

240 Each

36.0000

5

5

D3847-1

Wearpad

Location

Loc Qty

Loc Code

FP001

148686

130954

36

16

20

240 Each

13.0000

1

1

D3847-1

Wearpad

Location

Loc Qty

Loc Code

FP001

142783

151008

13

9

4

240 Each

14.0000

1

1

D3847-043

Wearplate Fwd

Location

Loc Qty

Loc Code

FP002

136770

139751

14

1

13

240 Each

14.0000

1

1

Monday, October 31, 2016 11:43:55 AM

Shop Packet Print

DQA: _____ Date: _____

QA Closed _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT/PROCESS ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other							
Date : _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Description Work Order Deviation				Disposition							
Completed By				Lead hand / Supervisor Approval Verification							
								QC / QA Coordinator Approval			

Picklist Print

Monday, October 31, 2016 11:43:55 AM

Work Order ID: 152551

152551

Parent Item: D119-646-141

D119-646-141

Parent Item Name: AW119 Replacement Skidube with Standard Wearplates & Wearpads, Fits LH & RH

Start Date: 10/28/2016

Required Date: 11/4/2016

D3847-045 Manufactured No

240 Each

18.0000 Start Qty: 1.00 1

Required Qty: 1.00

D3847-045

Wearplate Center

Location

Loc Qty

Loc Code

FP002

136771

4

139752

14

D3847-047 Manufactured No

240 Each

7.0000 1 1

D3847-047

Air Wearplate Assembly, Std Gear

Location

Loc Qty

Loc Code

FP002

136772

7

D3885-1 Manufactured No

140 Each

7.0000 1 1

D3885-1

Standard Web

Location

Loc Qty

Loc Code

LG002

150075

7

D3903-1 Manufactured No

160 Each

29.0000 12 12

D3903-1

Spacer

Location

Loc Qty

Loc Code

LG001

150281

29

Monday, October 31, 2016 11:43:55 AM

Shop Packet Print

Picklist Print

Monday, October 31, 2016 11:43:55 AM

Work Order ID: 152551

152551

Parent Item: D119-646-141

D119-646-141

Parent Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH

Start Date: 10/28/2016

Required Date: 11/4/2016

AL S4-1032-130 Purchased

No

220 Each

4,560.000 Start Qty: 1.00 30

Required Qty: 1.00

AL S4-1032-130

**

161111

Rivnut

Location
CCK004
M135442

Loc Qty
2364
2364

Loc Code

FG
M135442

50
50

FG

FP001

1914

M133077
M133442

122
1792

STS36

232
232

M135442

232

AN3CSA Purchased No

240 Each

1,261.000 32

32

AN3CSA

Bolt

**

161111

Location
FG
122800

Loc Qty
5
5

Loc Code
M135603

432

FP001

135

M135297

135

OVER002

800

M135603

400

M135948

400

ST350

321

M134676

121

M135442

200

Monday, October 31, 2016 11:43:55 AM

Shop Packet Print

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No.: _____ NCR No.: _____ Date: _____	Step #: _____ QTY Effective: _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube Machining ☐ Thermoforming ☐ Large Fab ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering Quality ☐ Other ☐
Description Work Order Deviation		Disposition	
Completed By		MR8 (QS1042) Approval	
Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-Up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Set-up	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER : _____									

Page 6

Monday, October 31, 2016 11:43:55 AM

Work Order ID: 152551

Parent Item: D119-646-141

Parent Item Name: AW119 Replacement Skidtube with Standard Wearplates & Wearpads, Fits LH & RH

Start Date: 10/28/2016

Required Date: 11/4/2016

NAS1149C0332R

	Purchased	No
1. <i>Age</i>		
2. <i>Gender</i>		
3. <i>Marital status</i>		
4. <i>Income</i>		
5. <i>Education</i>		
6. <i>Occupation</i>		
7. <i>Religion</i>		
8. <i>Health</i>		
9. <i>Family size</i>		
10. <i>Home ownership</i>		
11. <i>Home value</i>		
12. <i>Home age</i>		
13. <i>Home size</i>		
14. <i>Home type</i>		
15. <i>Home location</i>		
16. <i>Home condition</i>		
17. <i>Home features</i>		
18. <i>Home quality</i>		
19. <i>Home safety</i>		
20. <i>Home security</i>		
21. <i>Home energy efficiency</i>		
22. <i>Home environmental friendliness</i>		
23. <i>Home aesthetic appeal</i>		
24. <i>Home social desirability</i>		
25. <i>Home investment potential</i>		
26. <i>Home resale value</i>		
27. <i>Home rental potential</i>		
28. <i>Home tax benefits</i>		
29. <i>Home insurance costs</i>		
30. <i>Home maintenance costs</i>		
31. <i>Home utility costs</i>		
32. <i>Home parking availability</i>		
33. <i>Home proximity to schools</i>		
34. <i>Home proximity to shopping</i>		
35. <i>Home proximity to public transit</i>		
36. <i>Home proximity to parks</i>		
37. <i>Home proximity to restaurants</i>		
38. <i>Home proximity to entertainment</i>		
39. <i>Home proximity to healthcare</i>		
40. <i>Home proximity to government services</i>		
41. <i>Home proximity to community centers</i>		
42. <i>Home proximity to religious institutions</i>		
43. <i>Home proximity to cultural institutions</i>		
44. <i>Home proximity to sports facilities</i>		
45. <i>Home proximity to recreational areas</i>		
46. <i>Home proximity to business districts</i>		
47. <i>Home proximity to industrial areas</i>		
48. <i>Home proximity to commercial areas</i>		
49. <i>Home proximity to residential areas</i>		
50. <i>Home proximity to rural areas</i>		
51. <i>Home proximity to urban areas</i>		
52. <i>Home proximity to suburban areas</i>		
53. <i>Home proximity to exurban areas</i>		
54. <i>Home proximity to wilderness areas</i>		
55. <i>Home proximity to coastal areas</i>		
56. <i>Home proximity to mountain areas</i>		
57. <i>Home proximity to desert areas</i>		
58. <i>Home proximity to forested areas</i>		
59. <i>Home proximity to agricultural areas</i>		
60. <i>Home proximity to industrial areas</i>		
61. <i>Home proximity to commercial areas</i>		
62. <i>Home proximity to residential areas</i>		
63. <i>Home proximity to rural areas</i>		
64. <i>Home proximity to urban areas</i>		
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69. <i>Home proximity to mountain areas</i>		
70. <i>Home proximity to desert areas</i>		
71. <i>Home proximity to forested areas</i>		
72. <i>Home proximity to agricultural areas</i>		
73. <i>Home proximity to industrial areas</i>		
74. <i>Home proximity to commercial areas</i>		
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78. <i>Home proximity to suburban areas</i>		
79. <i>Home proximity to exurban areas</i>		
80. <i>Home proximity to wilderness areas</i>		
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84. <i>Home proximity to forested areas</i>		
85. <i>Home proximity to agricultural areas</i>		
86. <i>Home proximity to industrial areas</i>		
87. <i>Home proximity to commercial areas</i>		
88. <i>Home proximity to residential areas</i>		
89. <i>Home proximity to rural areas</i>		
90. <i>Home proximity to urban areas</i>		
91. <i>Home proximity to suburban areas</i>		
92. <i>Home proximity to exurban areas</i>		
93. <i>Home proximity to wilderness areas</i>		
94. <i>Home proximity to coastal areas</i>		
95. <i>Home proximity to mountain areas</i>		
96. <i>Home proximity to desert areas</i>		
97. <i>Home proximity to forested areas</i>		
98. <i>Home proximity to agricultural areas</i>		
99. <i>Home proximity to industrial areas</i>		
100. <i>Home proximity to commercial areas</i>		

Each

Start Qty: 1.00
4,424.000 32

Required Qty: 1.00

NAS1149C0332P
WASHER

林

2019/11/11

MS24694-C52

	Purchased	No
1. The company's financial statements are prepared in accordance with GAAP.	90%	10%
2. The company's financial statements are audited by an independent auditor.	85%	15%
3. The company's financial statements are reviewed by the board of directors.	75%	25%
4. The company's financial statements are reviewed by the management team.	60%	40%
5. The company's financial statements are reviewed by the external stakeholders.	50%	50%
6. The company's financial statements are reviewed by the internal stakeholders.	40%	60%
7. The company's financial statements are reviewed by the regulatory bodies.	30%	70%
8. The company's financial statements are reviewed by the public.	20%	80%
9. The company's financial statements are reviewed by the media.	10%	90%
10. The company's financial statements are reviewed by the government.	5%	95%

Each

144,0000

2

MS24694-C52
SCREW

✻

2/2/14

Location

Los Olivos

Line Code

FP001

26

11/2/302

2x

ST285

118

124308

4

MI127059

4

1133855

10

10135978

100

Monday, October 31, 2016 11:43:55 AM

Shop Packet Print

Page 6

DQA: _____ Date: _____

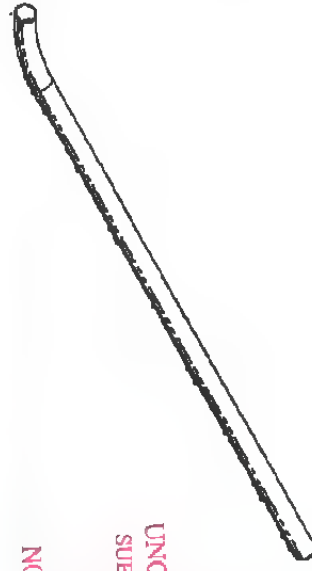
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use as is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier		AGAINST DEPARTMENT/PROCESS ☐ Engineering ☐ Quality ☐ Other ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier		MRB (QSI042) Approval ☐ Engineering ☐ Quality ☐ Other ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier	
Date: _____ Step #: _____		QTY Effective: _____		MRB (QSI042) Approval			
Description Work Order Deviation		Disposition		Completed By			
Description Work Order Deviation		Disposition		Lead hand / Supervisor Approval Verification			
Description Work Order Deviation		Disposition		QC / QA Coordinator Approval			

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process	OTHER :									
Misidentified	Past Due										



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 152551
16-10-88

D3887-441 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-443 STANDARD SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3887-445 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

- NOTES:
- 1) MATERIAL: NA
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART 008 005 4.1 PRIOR TO INSERTING D3886-1 WEB
 - 3) TOLERANCES: BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART 001 005 4.4
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) IDENTIFICATION: NONE
 - 6) WEIGHT: D3887-441 = 82.0 lbs
D3887-443 = 37.0 lbs
D3887-445 = 37.0 lbs
 - 7) WEAR: D3887-441 = 0.005 TO 0.010 MAX
 - 8) DAMAGE: NO DAMAGE TO FINISH
 - 9) WEAR: NO WEAR TO FINISH
 - 10) INSERT: D3887-441 = 0.005 TO 0.010 MAX
 - 11) INSERT: D3887-443 = 0.005 TO 0.010 MAX
 - 12) INSERT: D3887-445 = 0.005 TO 0.010 MAX
 - 13) INSERT: D3887-441 = 0.005 TO 0.010 MAX
 - 14) INSERT: D3887-443 = 0.005 TO 0.010 MAX
 - 15) INSERT: D3887-445 = 0.005 TO 0.010 MAX

1) MATERIAL: NA
2) FINISH: CHEMICAL CONVERSION COAT PER DART 008 005 4.1 PRIOR TO INSERTING D3886-1 WEB
3) TOLERANCES: BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART 001 005 4.4
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) IDENTIFICATION: NONE
6) WEIGHT: D3887-441 = 82.0 lbs
D3887-443 = 37.0 lbs
D3887-445 = 37.0 lbs
7) WEAR: D3887-441 = 0.005 TO 0.010 MAX
8) DAMAGE: NO DAMAGE TO FINISH
9) WEAR: NO WEAR TO FINISH
10) INSERT: D3887-441 = 0.005 TO 0.010 MAX
11) INSERT: D3887-443 = 0.005 TO 0.010 MAX
12) INSERT: D3887-445 = 0.005 TO 0.010 MAX
13) INSERT: D3887-441 = 0.005 TO 0.010 MAX
14) INSERT: D3887-443 = 0.005 TO 0.010 MAX
15) INSERT: D3887-445 = 0.005 TO 0.010 MAX

ITEM	QTY	QTY	QTY	PIN	DESCRIPTION
1	K	X	X	D3887-441	STD SKIDTUBE ASSY WITH WEARPAD
2				D3887-443	STD SKIDTUBE ASSY WITH WEARPLATE
3				D3887-445	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D3887-441	CROSS BOLT SPACER
11	2	2	2	D3887-443	PLUG ASSY
12	16	16	16	D3887-445	FRIGIDIC WASHER
13	2	2	2	D3887-441	SPACER
14	8	8	8	D3887-443	WEARPAD
15	1	1	1	D3887-445	STD SKIDTUBE ASSY
16	1	1	1	D3887-441	STD SKIDTUBE ASSY
17	1	1	1	D3887-443	STD SKIDTUBE ASSY
18	1	1	1	D3887-445	STD SKIDTUBE ASSY
19	1	1	1	D3887-441	STD SKIDTUBE ASSY
20	1	1	1	D3887-443	STD SKIDTUBE ASSY
21	1	1	1	D3887-445	STD SKIDTUBE ASSY
22	1	1	1	D3887-441	STD SKIDTUBE ASSY
23	1	1	1	D3887-443	STD SKIDTUBE ASSY
24	1	1	1	D3887-445	STD SKIDTUBE ASSY
25	1	1	1	D3887-441	STD SKIDTUBE ASSY
26	1	1	1	D3887-443	STD SKIDTUBE ASSY
27	12	12	12	D3887-445	STD SKIDTUBE ASSY
28	1	1	1	D3887-441	STD SKIDTUBE ASSY
29	1	1	1	D3887-443	STD SKIDTUBE ASSY
30	1	1	1	D3887-445	STD SKIDTUBE ASSY
31	1	1	1	D3887-441	STD SKIDTUBE ASSY
32	1	1	1	D3887-443	STD SKIDTUBE ASSY
33	1	1	1	D3887-445	STD SKIDTUBE ASSY
34	1	1	1	D3887-441	STD SKIDTUBE ASSY
35	1	1	1	D3887-443	STD SKIDTUBE ASSY
36	1	1	1	D3887-445	STD SKIDTUBE ASSY
37	1	1	1	D3887-441	STD SKIDTUBE ASSY
38	1	1	1	D3887-443	STD SKIDTUBE ASSY
39	1	1	1	D3887-445	STD SKIDTUBE ASSY
40	1	1	1	D3887-441	STD SKIDTUBE ASSY
41	1	1	1	D3887-443	STD SKIDTUBE ASSY
42	1	1	1	D3887-445	STD SKIDTUBE ASSY
43	1	1	1	D3887-441	STD SKIDTUBE ASSY
44	1	1	1	D3887-443	STD SKIDTUBE ASSY
45	1	1	1	D3887-445	STD SKIDTUBE ASSY
46	1	1	1	D3887-441	STD SKIDTUBE ASSY
47	1	1	1	D3887-443	STD SKIDTUBE ASSY
48	1	1	1	D3887-445	STD SKIDTUBE ASSY

RELEASED
20 NOV 24
15.04.30 URF-15-550 AP
UNDER REVIEW

DESIGN	RE	DATE	13.08.20
CHECKED	BY	DATE	13.08.20
APPROVED	BY	DATE	13.08.20
DATE	BY	DATE	13.08.20
DRAWING NO. D3887			
TITLE A119 STD SKIDTUBE ASSY			
SCALE 1:1			
DATE 13.08.20			

DQA: _____ Date: _____
 QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS						Work Order update only ☐													
Date: _____		Step #: _____		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other											
Date: _____		Step #: _____		QTY Effective: _____		MIRB (QS1042) Approval																	
Description Work Order Deviation				Disposition				Completed By				Lead hand / Supervisor Approval Verification											
												QC / QA Coordinator Approval											
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐				No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ We d ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
				OTHER: ☐																			

DESIGN	RF	DRAWING NO.	
DEAWN	DB	D3667	
CHECKED		REV. C.	
MFG. APPR.		SHEET 2 OF 2	
APPROVED		SICL	
DE APPR.		NTRY	
DATE	13.09.20	A118 STD SKIDTUBE ASSY	

DQA: _____ Date: _____

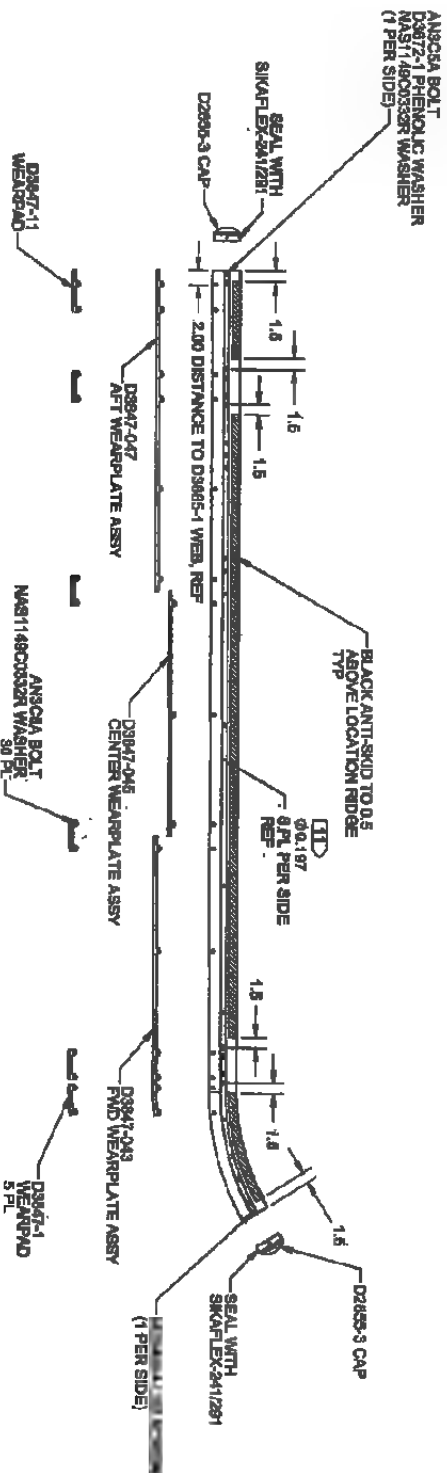
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed

Date: _____

Work Order update only

Work Order: _____ Part No.: _____ NCR No.: _____	DISPOSITION Rework ☐ Scrap ☐ Use as is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	AGAINST DEPARTMENT/PROCESS QTY Effective: _____ Step #: _____ MRB (QSI042) Approval 																																																																								
Description Work Order Deviation 		Disposition 																																																																								
Root Cause <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Environment</td><td>No Re-verification</td><td>Pressure/Forced</td><td>Temperature/Cure</td><td>Power Loss/Surge</td><td>Positioned Wrong</td></tr> <tr> <td>Design</td><td>Operator</td><td>Bending</td><td>Set Up</td><td>Folio/Program</td><td>Outside Dimensions</td></tr> <tr> <td>Doc/Data</td><td>Offset/Setup</td><td>Centre Not Concentric</td><td>BOM/Route</td><td>Grain</td><td>Over/Under Tolerance</td></tr> <tr> <td>Equip/Tooling</td><td>Supplier</td><td>Cracks</td><td>Broken/Damage/Defect</td><td>Weld</td><td>Part Incorrect</td></tr> <tr> <td>Handling/Pre</td><td>Training</td><td>Crimp/Kink/Ripple/Wave</td><td>Inspection incomplete/Unqualified</td><td>Wrong Stock Pulled</td><td>Part Lost/Missing</td></tr> <tr> <td>Material</td><td>Use for Testing</td><td>Cuffs</td><td>Contamination</td><td>Out of Sequence</td><td>Part Moved</td></tr> <tr> <td>Internal Transport</td><td>Poor Information</td><td>Crushing</td><td>Countersink</td><td>Off set</td><td>Draw ng</td></tr> <tr> <td>Tribal Knowledge</td><td>Rushing</td><td>Heat Treat</td><td>Cut Too Short</td><td>Mislabeled</td><td>Finish</td></tr> <tr> <td>LOA</td><td>Product Improvement</td><td>Wave/Twist in Tube</td><td>Instructions Incomplete/Unclear</td><td>Fit/Function</td><td>Misread</td></tr> <tr> <td>Substation</td><td>Process Improvement</td><td>Marks/Chatter</td><td>Drill Holes</td><td>Misaligned/off center</td><td>Turning Sequence</td></tr> <tr> <td>Past Expiry Date</td><td>Manufacturing Process</td><td></td><td></td><td></td><td></td></tr> <tr> <td>Misidentified</td><td>Past Due</td><td></td><td></td><td></td><td></td></tr> </table>		Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Design	Operator	Bending	Set Up	Folio/Program	Outside Dimensions	Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under Tolerance	Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect	Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved	Internal Transport	Poor Information	Crushing	Countersink	Off set	Draw ng	Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish	LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread	Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence	Past Expiry Date	Manufacturing Process					Misidentified	Past Due					FAULT CATEGORY
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong																																																																					
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Past Expiry Date	Manufacturing Process																																																																									
Misidentified	Past Due																																																																									
OTHER : 		QC / QA Coordinator Approval 																																																																								
Completed By 		Lead hand / Supervisor Approval Verification 																																																																								



D3897-2-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE
(CHANGE FROM D3897-1)

UNDER REVIEW

15.04.30 URF15-560 AP

RELEASED

2011 NOV 24 4P

DESIGN	RF	DART AEROSPACE USA, INC.
DRAWN	IB	NEW, MA
CHECKED		
MFG. APPR.		REV. D
APPROVED		D3887
DE APPR.		SHEET 1 OF 1
DATE	13.09.20	TITLE
		A119 STD SKIDTUBE ASSY
		SCALE
		NTS

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DQA: _____ Date: _____

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

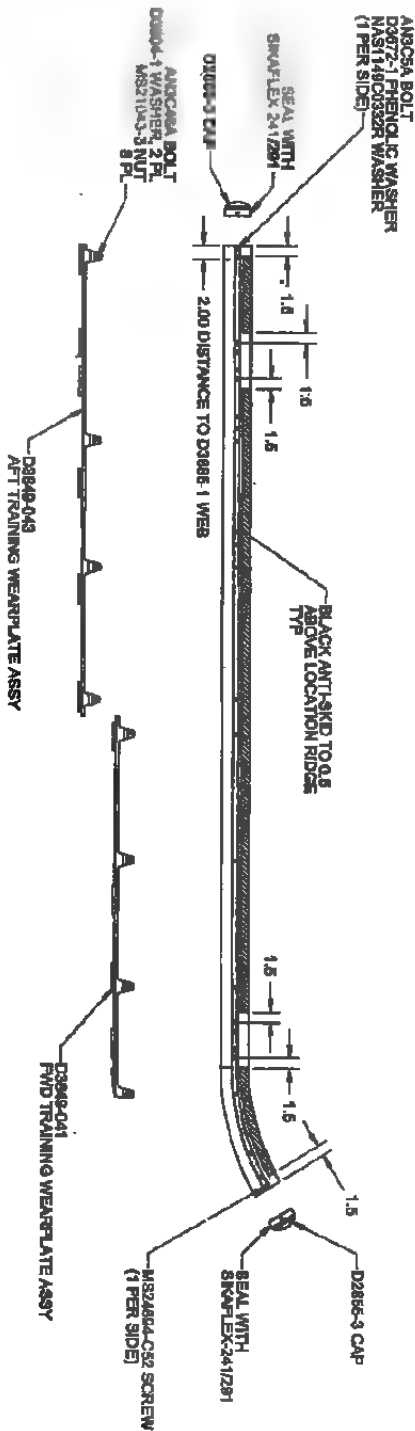
QA Closed

Date:

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Water Jet ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Finishing ☐ Rec/Store/Packaging ☐ Composite ☐ Supplier ☐				Engineering ☐ Quality ☐ Other ☐	
Date : _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval			
Description Work Order Deviation				Disposition					
Completed By				Lead hand / Supervisor Approval Verification					
QC / QA Coordinator Approval				QC / QA Coordinator Approval					

Root Cause		FAULT CATEGORY												
Environment	No Re-verification	Temperature/Cure	Power Loss/ Surge	Positioned Wrong										
Design	Operator	Set-up	Folio/Program	Outs:de Dimensions										
Doc/Data	Offset/Setup	BOM/Route	Grain	Over/Under tolerance										
Equip/Tooling	Supplier	Broken/Damage/Defect	Weld	Part Incorrect										
Handling/Pre	Training	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing										
Material	Use for Testing	Contamination	Out of Sequence	Part Moved										
Internal Transport	Poor Information	Countersink	Off set	Drawing										
Tribal Know edge	Rushing	Cut Too Short	Mislabeled	Finish										
LOA	Product Improvement	Instructions Incomplete/Unclear	Hit/Function	Misread										
Substation	Process Improvement	Drill Holes	Misaligned/off center	Turning Sequence										
Past Expiry Date	Manufacturing Process													
Misidentified	Past Due													
		OTHER :												



D3867-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3867-13)

UNDER REVIEW

15:04:30 URF15:560 AP

RELEASED

2018 NOV 24 CP

DESIGN	RF	DART AEROSPACE USA, INC.
DRAWN	DB	HENT, WA
CHECKED	DB	DRAWING NO.
MPG. APPR.	DB	D3867
APPROVED	DB	TITLE
DE APPR.	DB	A119 STD SKIDTUBE ASSY
DATE	13.09.20	SCALE
		NTS

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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION Rework ☐ Scrap ☐ Use as is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval Engineering ☐ Quality ☐ Other ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	
Date: _____ Step #: _____		QTY Effective: _____		MRB (QS1042) Approval			
Description Work Order Deviation				Disposition			
Completed By				Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval				QC / QA Coordinator Approval			

Root Cause				FAULT CATEGORY																				
Environment	Design	Doc/Data	Equip/Tooling	Handling/Pre	Material	Internal Transport	Tribal Knowledge	LOA	Substation	Past Expiry Date	Misidentified	No Re-verification	Operator	Offset/Setup	Supplier	Training	Use for Testing	Poor Information	Rushing	Product Improvement	Process Improvement	Manufacturing Process	Past Due	OTHER :
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				Pressure/Forced				Temperature/Cure				Power Loss/Surge				Positioned Wrong								
				Bending				Set up				Folio/Program				Outside Dimensions								
				Centre Not Concentric				BOM/Route				Grain				Over/Under tolerance								
				Cracks				Broken/Damage/Defect				Weld				Part Incorrect								
				Crimp/Kink/Ripple/Wave				Inspection Incomplete/Unqualified				Wrong Stock Pulled				Part Lost/Missing								
				Cuffs				Contamination				Out of Sequence				Part Moved								
				Crushing				Countersink				Off set				Drawing								
				Heat Treat				Cut Too Short				Misabeled				Finish								
				Wave/Twist in Tube				Instructions Incomplete/Unclear				Fit/Function				Misread								
				Marks/Chatter				Drill Holes				Misaligned/off center				Turning Sequence								



2016 NOV 24 *cp*

DESIGN		RF	DART AEROSPACE USA, INC.	
DRAWING		03	HENRY, WA	
CHECKED		5	REV. D	
MFG. APTL		TV	SHEET 8 OF 8	
APPROVED		17	SCALE	
DATE		13.09.20	MTR	
			A119 STD SKIDTUBE ASSY	
			TITLE	
			DRAWING NO. D9887	

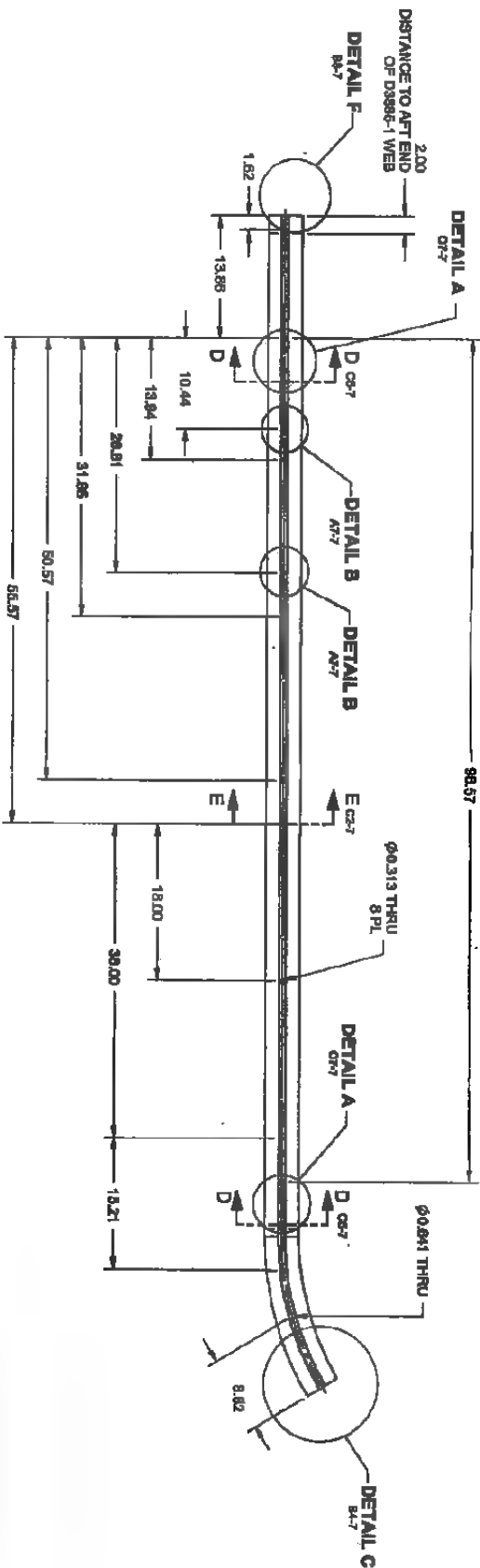
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DQA: _____ Date: _____

QA Closed _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed		Date:		Work Order update only	
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT/PROCESS ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other	
Date :		Step #:		QTY Effective :	
Description Work Order Deviation		Disposition		MRB (QS1042) Approval	
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause ☐ Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified		☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Test ng ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due		FAULT CATEGORY ☐ Temperature/Cure ☐ Set up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes	
				☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	
				☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	
		OTHER :			



D3887-13 DRILLING DETAIL

UNDER REVIEW

15.04.30 URF15-560 AP

RELEASED

2014 NOV 24

DESIGN	DR	DATE	13.09.20
DRAWN	DB		
CHECKED			
WFG. APPR.			
APPROVED			
DE APPR.			
DATE			
DART AEROSPACE USA, INC.			
DRAWING NO. D3887			
TITLE A119 STD SKIDTUBE ASSY			
SCALE NTS			
SHEET 6 OF 8			
REVISIONS			
REVISION NO. 1			
REVISION DESCRIPTION			
REVISION DATE			

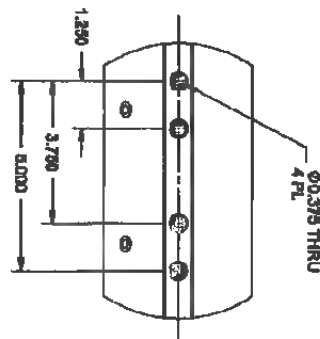
DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

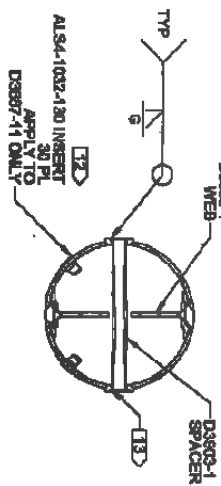
QA Closed _____ Date: _____

Work Order update only ☐

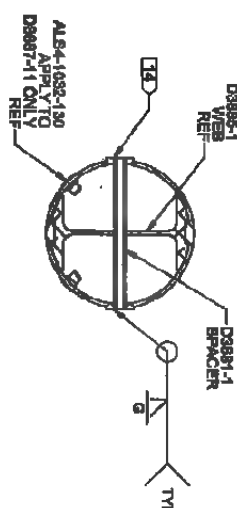
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	AGAINST DEPARTMENT/PROCESS	Date: _____ Step #: _____ QTY Effective: _____ Disposition: _____ Description Work Order Deviation: _____	MRB (QS1042) Approval _____ Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																																																																																																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">Root Cause</th> <th colspan="10" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td style="width: 15%;">Environment</td> <td style="width: 15%;">No Re verification</td> <td style="width: 10%;">Pressure/Forced</td> <td style="width: 10%;">Temperature/Cure</td> <td style="width: 10%;">Power Loss/Surge</td> <td style="width: 10%;">Positioned Wrong</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>Design</td> <td>Operator</td> <td>Bending</td> <td>Set-up</td> <td>Folio/Program</td> <td>Outside Dimensions</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Doc/Data</td> <td>Offset/Setup</td> <td>Centre Not Concentric</td> <td>BOM/Route</td> <td>Grain</td> <td>Over/Under tolerance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Equip/Tooling</td> <td>Supplier</td> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td>Weld</td> <td>Part Incorrect</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Handling/Pre</td> <td>Training</td> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection Incomplete/Unqualified</td> <td>Wrong Stock Pulled</td> <td>Part Lost/Missing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Material</td> <td>Use for Testing</td> <td>Cuffs</td> <td>Contamination</td> <td>Out of Sequence</td> <td>Part Moved</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Internal Transport</td> <td>Poor Information</td> <td>Crushing</td> <td>Countersink</td> <td>Off-set</td> <td>Drawing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tribal Knowledge</td> <td>Rushing</td> <td>Heat Treat</td> <td>Cut Too Short</td> <td>Mislabeled</td> <td>Finish</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>LOA</td> <td>Product Improvement</td> <td>Wave/Twist in Tube</td> <td>Instructions Incomplete/Unclear</td> <td>Fit/Function</td> <td>Misread</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Substat on</td> <td>Process Improvement</td> <td>Marks/Chatter</td> <td>Drill Holes</td> <td>Misaligned/off center</td> <td>Turning Sequence</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Past Expiry Date</td> <td>Manufacturing Process</td> <td colspan="10" style="text-align: center;">OTHER : _____</td> </tr> <tr> <td>Misidentified</td> <td>Past Due</td> <td colspan="10"></td> </tr> </tbody> </table>					Root Cause		FAULT CATEGORY										Environment	No Re verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong							Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions							Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance							Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect							Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing							Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved							Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing							Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish							LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread							Substat on	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence							Past Expiry Date	Manufacturing Process	OTHER : _____										Misidentified	Past Due										
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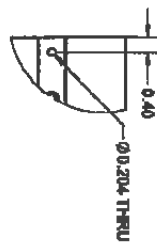
DETAIL A
D25
C34
D74
SCALE X
C34



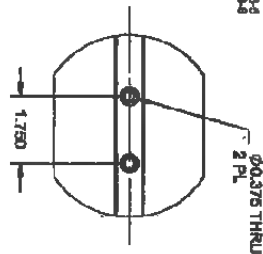
SECTION D-D
D25
C34
D74
SCALE X
C34
(FOR 12 X Ø0.375 IN. PER SKIDTUBE)



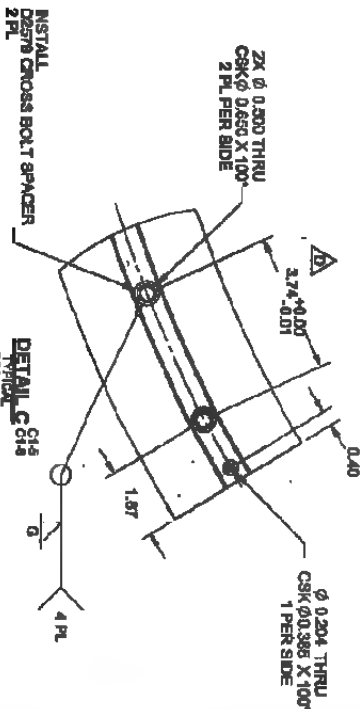
SECTION E-E
C44
SCALE X
C44
(FOR 3 X Ø0.313 HOLES PER SKIDTUBE)



DETAIL F
C34
SCALE X
C34



DETAIL B
C34
SCALE X
C34



DETAIL C
C15
SCALE X
C15

NOTES:
1) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
a) INSERT D3885-1 SPACER
b) WELD INTO PLACE AND GRIND FLUSH
c) DEBURR HOLES
14) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:
a) CHAMFER HOLES Ø0.354 x 45° ON 0.000 DEEP x 45° (BOTH SIDES)
b) INSERT D3887-1 SPACER
c) WELD INTO PLACE AND GRIND FLUSH
d) DEBURR HOLES

UNDER REVIEW

15.04.30 URF-15-560 AP

RELEASED

2016 NOV 24

DESIGN	RF	DART AEROSPACE USA, INC.
DRAWN	OF	CONTR. NO.
CHECKED		
MFG. APPR.		D3887
APPROVED		
DE APPR		A119 STD SKIDTUBE ASSY
DATE	13.09.20	

DQA: _____ Date: _____

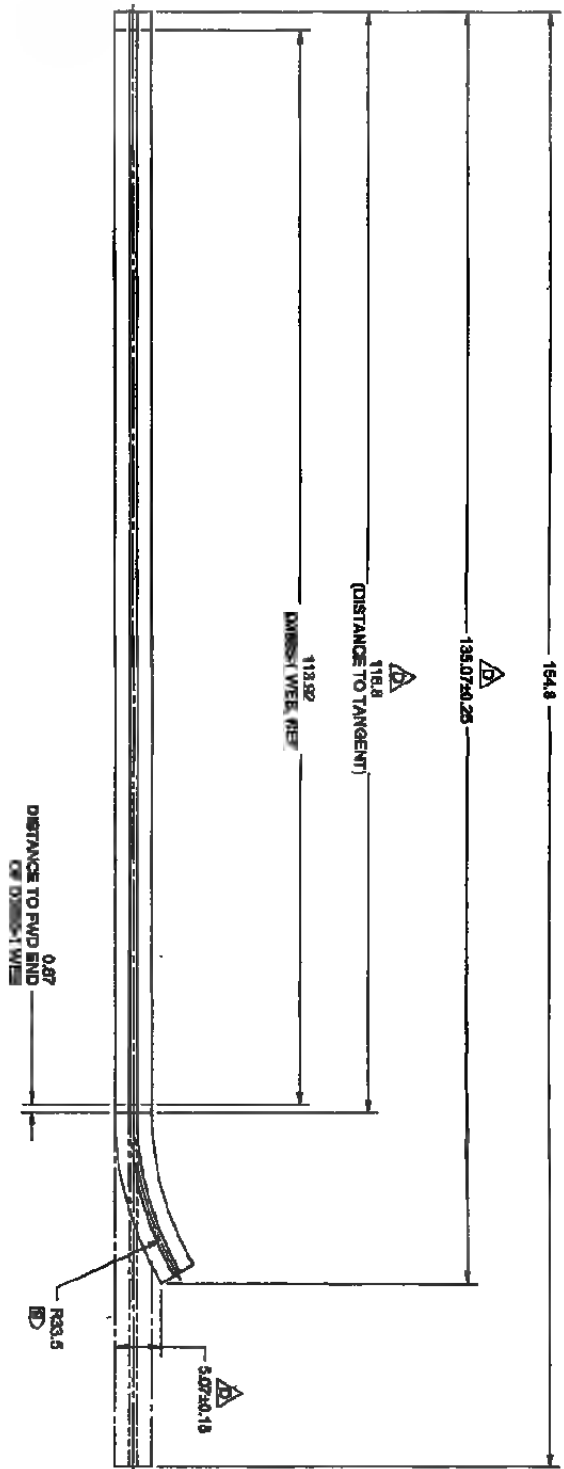
QA Closed _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update on: y

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is Suspected Unapproved		AGAINST DEPARTMENT/PROCESS ☐ Skid-tube ☐ Cross tube ☐ Water Jet ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Large Fab ☐ Composite ☐ Supplier ☐ Engineering ☐ Quality ☐ Other			
Date : _____		Step #: _____		QTY Effective : _____			
Description Work Order Deviation		Disposition		MRB (QS/042) Approval			
				Completed By			
				Lead hand / Supervisor Approval Verification			
				QC / QA Coordinator Approval			

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
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Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER :									



FOR INFORMATION ONLY

UNDER REVIEW

15.04.30 URF-15-560 AP

RELEASED

2014 NOV 24

DESIGN	RF	DART AEROSPACE USA, INC.
DRAWN	DB	REV. 1.0
CHECKED	A	DRAWING NO. D3687
MFG. APPR.	Mo	SHEET 1 OF 2
APPROVED	Mo	TITLE A119 STD SKIDTUBE ASSY
DE APPR.	Mo	SCALE N/A
DATE	13.09.20	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	AGAINST DEPARTMENT/PROCESS	Date: _____ Step #: _____ QTY Effective: _____ Description Work Order Deviation _____ Disposition _____ Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																																																																																																																																																																								
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DOA: 4/4 Date: Jan 4 2017

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: 16/10/31 Date: DEC 9 2016

Work Order update only

Work Order: <u>752057</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS	
Part No. <u>D19-646-141</u>		Rework ☒ Scrap ☐ Use-as-is ☐		Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	
NCR No. <u>16-1642</u>		Suspected Unapproved		Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐	
Date: <u>16/10/31</u>		Step #: <u>Z00</u>		QTY Effective: <u>2</u>	
Description Work Order Deviation		Disposition <u>2</u>		Completed By <u>333/16-11-28</u> Lead hand / Supervisor <u>9-89</u> Approval Verification <u>9-89</u> QC / QA Coordinator <u>9-89</u> DAS Approval <u>16-12-08</u>	
Do not powder coat saddle meeting surface per customer request, chlorine only.		Finish per attached drawing			
Root Cause		FAULT CATEGORY			
Environment: ☐ Design ☐ Doc/Data ☒ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			
☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐			
☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER: <u>Customer request</u>					

